

REMARKS

Please reconsider this application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Information Disclosure Statement

At the outset, further to the request and arguments made in the response to Office Action dated April 23, 2007, the Applicant respectfully requests that the PTO/SB/08 from the IDS filed on October 6, 2004, be initialed to include references DE-10213105 and DE-4007526, and returned. If these Information Disclosure Statements have not been considered, appropriate consideration thereof is respectfully requested.

Drawings

Additionally, the Applicant respectfully requests that the Examiner acknowledge the drawings as formal.

Disposition of the Claims

Claims 1-10 are pending in this application. Claim 1 is independent. The remaining claims depend, directly or indirectly, from the independent claims.

Amendments to the Claims

Claim 1 has been amended by way of this reply to clarify the claimed invention. Claims 11, 12, and 13 have been added. No new matter has been added by these amendments. Support may be found, for example, in the original claims, figures, and paragraphs [0059], [0071], [0074], [0077], and [0079] of the published specification.

Rejection(s) under 35 U.S.C. § 103

Claims 1-5, 8, and 9 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,420,793 ("Gale") in view of U.S. Patent No. 5,446,365 ("Nomura"). Although dependent claim 10 is not listed in the rejection heading, it is discussed in the Examiner's arguments within this rejection. Accordingly, it is assumed the Examiner intended to include claim 10 within this rejection. To the extent this rejection may still apply to the amended claims, this rejection is respectfully traversed.

The present invention relates to an arrangement for controlling a multi-phased and reversible rotating electrical machine, associated with an internal combustion engine of a vehicle, including a network for supplying electrical energy and an electrical energy supply battery connected to this network. During alternator mode, the switching device may be configured to allow the passage of current from the electrical machine through the electrical network together and block the passage of current through the DC to DC device (short-circuit of the DC to DC device). *See* Figure 6 and paragraph [0071] of the published specification. During normal operation, the current from the electrical machine may be supplied directly to the electrical network without being converted by the DC to DC device. As such, a relatively high intensity current from the electrical machine may be supplied to the electrical network even if the DC to DC device is not configured for converting current with such a high intensity (since the DC to DC device is short-circuited). Thus, the network is supplied with power that exceeds the maximum conversion power of the DC to DC device. As a result, a relatively small and low-power converter may be used even though the power supplied directly to the network during normal operation may be relatively high.

Accordingly, amended claim 1 recites, in part, "the switching device being configured to connect the electrical machine to the energy storage device during overexcitation" and "the switching device being further configured for enabling short-circuiting of the DC to DC device during alternator mode other than overexcitation."

Newly added claim 11 recites, in part, "the switching device comprising: two transistors mounted head to tail between the electrical machine and a connection point of the DC to DC device and of the energy storage device, and one transistor mounted between the electrical machine and a connection point of the DC to DC device and of the energy supply battery."

Newly added claim 12 recites, in part, "the switching device comprising: a diode with a switch mounted in series between the electrical machine and a connection point of the DC to DC device and of the energy storage device, and one transistor mounted between the electrical machine and a connection point of the DC to DC device and of the energy supply battery."

Newly added claim 13 recites, in part, "the switching device comprising a switch mounted in parallel with the DC to DC device."

Gale discloses a method for energizing a combined starter/alternator **10** to start a motor **20** in a vehicle. In Gale, the converter **14** placed between the battery **18** and the capacitor **34** cannot be short-circuited. Nomura discloses a power converter for controlling a car the battery in which regeneration power is efficiently recovered. The power converter placed between the battery **6** and the capacitor **21** cannot be short circuited.

In contrast, amended claim 1 recites, in part, "the switching device being further configured for enabling short-circuiting of the DC to DC device during alternator mode other than overexcitation." Gale and Nomura necessarily cannot show or suggest a switching device being configured to connect an electrical machine to an energy storage device during overexcitation of the machine, and for enabling short-circuiting of a DC to DC device during alternator mode other than overexcitation given the fact that their respective converters cannot be short-circuited. In addition, Gale and Nomura fail to show or suggest the switching device recited in claims 11, 12, and 13.

In view of the above, amended independent claim 1 and newly added claims 11, 12, and 13 are patentable over Gale and Nomura, whether considered separately or in combination for at least the reasons set forth above. Dependent claims 2-5 and 8-10 are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Claims 6 and 7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gale in view of Japanese Patent No. JP-10184506. To the extent this rejection may still apply to the amended claims, this rejection is respectfully traversed.

As discussed above, Gale and Nomura fail to show or suggest each and every limitation of claims 1, 11, 12, and 13. Furthermore, JP-10184506 fails to disclose that which Gale and Nomura lack as is evidenced by the fact that the Examiner relies on JP-10184506 merely to disclose a diode in series with a switch. *See* Office Action dated November 28, 2007 at page 4. Thus, Gale, Nomura, and JP-10184506, whether considered separately or in combination, fail to show or suggest all the limitations of claims 1, 11, 12, and 13.

In view of the above, independent claims 1, 11, 12, and 13 are patentable over Gale, Nomura, and JP-10184506 for at least the reasons set forth above. Claims 6 and 7 depend from independent claim 1 and are allowable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 17170/002001).

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Respectfully submitted,

By 

Jonathan P. Osha
Registration No.: 33,986
OSHA · LIANG LLP
1221 McKinney St., Suite 2800
Houston, Texas 77010
(713) 228-8600
(713) 228-8778 (Fax)
Attorney for Applicant